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ABSTRACT

To extend research on adult/child interactions, attitudes and behaviors of teenage parents and trained "educarers" were compared, and the relationship between adults' and children's interactive styles was investigated. Two groups of questions were addressed: (1) Are there significant statistical differences as well as qualitative descriptive differences between teenage parents and trained educarers in ratings of their ideal images of children, in ratings of temperament, or in interactions with children? (2) Regardless of membership in one or the other adult group, do significant relationships exist between adults' and children's interactive styles? and, Which interactional patterns are positive in terms of facilitating development? Participants were 15 teenage parent/child dyads and 12 trained primary-care educarer/child dyads. The average age of the teenage parents was almost 17; that of caregivers was nearly 26. Educarers had been previously trained in the philosophy of Magda Gerber; teen parents had received earlier counseling and information about child development and parenting skills. Findings revealed that, while similar temperament ratings between groups existed, groups differed in interaction styles. Additionally, adult and child interactive styles were significantly related; sensitive caregiver styles were related to cooperative child styles. (Appended are toddler temperament scale/profile sheets for 1- and 2-year-old children and coding devices for adult and child interaction.) (RH)

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Interactions of Teen Parents and Trained Caregivers with Young Children

by

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INTERACTIONS OF TEEN PARENTS AND TRAINED CAREGIVERS WITH YOUNG CHILDREN

One current research focus has been on the quality of interactions experienced by young children and the adults responsible for their care. Among the most frequently noted aspects of normal mother-child interaction are the rhythmic cycling of activity and attention for both mother and child, turn-taking, the timing of adult behavior so that it meshes with child rhythms, and the regulation of the intensity of behavior. (Brazelton, Koslowski, and Mlain, 1971; Condon and Sander, 1979; Fogel, and 1984; Langhorst, 1981; Newson, 1977; Stern, 1974) Sutton-Smith, (1979) has summarized the interactions of infancy, focusing on the importance of unison and exchange routines as well as routines in which the adult is the central person.

The positive effects of responsive maternal/child interaction has been documented in a variety of sources. One study found that maternal sensitivity to infant signals was significantly related to advanced scores on the Griffiths and the Bayley Scales and to greater skills in object permanency (Gulley, 1982). Maternal sensitivity to infant cues appears related to overall cognitive development of young children (Klaus and Kennell, 1983). Appropriate, contingent responses to infant actions have appeared to increase infants' expectancies about their own effectiveness and in turn to increase their exploration and mastery of the environment (Dunn, 1977). Crittenden (1981) found a clear relationship between maternal abusiveness and infant difficultness and between maternal neglect and infant passiveness.

Another research focus has been on temperament and how this might interrelate with maternal style in interaction. Building on the work of Thomas, Chess and Birch (1963), other researchers (Carey and McDevitt, 1977, 1978; Fuller, McDevitt, Carey, 1978), have developed standardized infant and toddler temperament scales to identify individual differences in such characteristics as rhythm, approach, intensity, mood. Temperament-environment interaction has crucial importance for child health and development (Carey, 1981; Porter and Collins, 1982).

Research Problem

This study sought to extend the research on the adult/child interactions through comparing and contrasting input from two populations--teen parents and trained educarers. Because these populations have increasing responsibilities for children, their backgrounds and interactions need to be carefully studied. Two groups of questions were addressed:

1) Are there significant statistical differences as well as qualitative descriptive differences between teen parents and trained educarers in their ideal image ratings? in their ratings of temperament? in their interactions with children?
2) Regardless of adult group, are there any significant relationships between adult interactive style and child interactive style? Which interactional patterns are positive in terms of the facilitation of development?

Fifteen teen parent/child dyads involved in public school programs and twelve trained educarer/"primary care" child dyads from an infant/toddler group program were involved in the study. The average age of the teen parents was almost seventeen, while the average age of the caregivers was nearly twenty-six. Over ninety percent of the teen parents were either low income or on AFDC.

Two-thirds of this group were living in three-generation families or in foster homes. "Children" of primary educarers were from two-parent, nuclear families with middle to high income (See Tables I and II.)

The educarers were trained in the philosophy of Magda Gerber which stresses selective, responsive intervention and observation of young children (Gerber, 1979). The curriculum of the teen parents involved counseling and information classes related to child development and parenting skills.

The group of teen parents and the group of trained educarers 1) rated their ideal image of a child, 2) rated the temperaments of
the standardized tools referred to earlier, and 3) engaged in interactive play sessions which were carefully micro-analyzed.

The ideal image was rated on a form developed by the investigator which asked the respondents to indicate the ideal activity level, rhythm, approach, adaptation, intensity, mood, persistence, distractibility, and threshold of intrusion a child should exhibit.

The temperaments were rated on the standardized forms. (Carey and McDevitt, 1977, 1978; Fuller, McDevitt & Carey, 1978). The items, over ninety in number were rated on a six-point scale from almost always to almost never. These were then coded on a sheet with standardized scores and transferred to a profile sheet designed to reflect the same temperamental dimensions listed for ideal image. (See Appendix I.) Finally, the profiles indicated whether the child was difficult, easy, slow to warm up, intermediate high (tending toward difficulty) intermediate low (tending toward easy).

Dyads from the teen parent/child group and dyads from the trained educarer/child group were videotaped in a home-type setting for two fifteen minute time periods, in October and again in June, as they interacted infor-

TABLE I. Demographic Characteristics of Teen Parents and Their Children

Number	Child's Age	Adult's Age	Education	SES	Living Conditions	Ideal Temperament	Temperament on Written Scales	Adult Interactive Style	Child Interactive Style
I	19 mo	19 yrs	Drop-Out	AFDC	Single Parent	Intermediate Low	Difficult	Withdrawn	Cooperative
II	16 mo	17 yrs	Attending Regular High School	AFDC	Three Generation	Intermediate Low	Intermediate High	Unclear Pattern	Passive
III	17 mo	17 yrs	Attending Alternative High School	AFDC	Three Generation	Difficult	Intermediate High	Unclear Pattern	Unclear Pattern
IV	17 mo	17 yrs	Drop-Out	AFDC	Nuclear Family	N/A	N/A	Directive	Passive
V	17 mo	16 yrs	Alternative	AFDC	Three Generation	Intermediate Low	Intermediate High	Directive	Passive
VI	14 mo	19 yrs	Attending Regular High School	AFDC	Three Generation	Intermediate High	Difficult	Sensitive	Cooperative
VII	19 mo	17 yrs	Attending Regular High School	AFDC	Three Generation	Intermediate High	Intermediate High	Sensitive	Cooperative
VIII	12 mo	16 yrs	Attending Regular High School	Low Income	Three Generation	Intermediate High	Difficult	Directive	Passive
IX	17 mo	16 yrs	Attending Regular High School	Middle Income	Nuclear Family	Easy	Intermediate High	Withdrawn	Passive
X	7.5 mo	16 yrs	Attending Regular High School	AFDC	Foster Home	Intermediate Low	Intermediate High	Unclear Pattern	Passive
XI	8 mo	17 yrs	Attending Regular High School	AFDC	Nuclear Family	Intermediate High	Difficult	Directive	Passive
XII	17 mo	16 yrs	Attending Regular High School	AFDC	Three Generation	Intermediate High	Difficult	Sensitive	Cooperative
XIII	19 mo	19 yrs	High School Graduate	AFDC	Single Parent	Intermediate High	Intermediate Low	Sensitive	Cooperative
XIV	15 mo	15 yrs	Attending Regular High School	AFDC	Three Generation	Easy	Slow-To-Warm Up	Withdrawn	Passive
XV	15 mo	15 yrs	Attending Regular	AFDC	Three Generation	Intermediate Low	Difficult	Unclear Pattern	Unclear Pattern

TABLE II. Demographic Characteristics of Trained Educarers and Their "Primary Care Children"

Number	Child's Age	Educarer's Age	Education of Educarer	SES of Child	Living Condition of Child	Ideal Temperament	Temperament on Written Scales	Adult Interactive Style	Child Interactive Style
I	10½ mo	24 yrs	College Graduate	AFDC	Nuclear	Difficult	Difficult	Sensitive	Cooperative
II	4 mo	30 yrs	College Graduate	Middle Income	Nuclear	Difficult	Intermediate Low	Sensitive	Cooperative
III	13 mo	24 yrs	College Graduate	Middle Income	Nuclear	Difficult	Intermediate High	Sensitive Sensitive	Cooperative Cooperative
IV	14 mo	21 yrs	Attending College	Middle Income	Nuclear	Difficult	Intermediate High	Sensitive	Cooperative
V	28 mo	19 yrs	Hi School Graduate	Middle Income	Nuclear	Difficult	Slow to Warm up	Sensitive	Cooperative
VI	19 mo	19 yrs	Hi School Graduate	Middle Income	Nuclear	Difficult	Intermediate Low	Sensitive	Cooperative
VII	24 mo	32 yrs	College Graduate	Middle Income	Nuclear	Intermediate Low	Intermediate High	Sensitive	Cooperative
VIII	18 mo	32 yrs	College Graduate	Middle Income	Nuclear	Intermediate Low	Slow-to Warm-up	Sensitive	Cooperative
IX	12 mo	24 yrs	College Graduate	Middle Income	Nuclear	Difficult	Difficult	Sensitive	Cooperative
X	9½ mo	18 yrs	Hi School Graduate	Middle Income	Nuclear	Difficult	Intermediate High	Unclear Pattern	Cooperative
XI	29 mo	32 yrs	College Graduate	Middle Income	Nuclear	Intermediate Low	Difficult	Sensitive	Cooperative
XII	22 mo	32 yrs	College Graduate	Middle	Nuclear	Intermediate Low	Easy	Sensitive	Cooperative

mally with children. Adults were told to play with "their" children in designated area, with or without readily available toys.

The tapes were analyzed by the investigator using a form adapted from the work of Crittenden (1981). (See Appendix II) This procedure sought to look at the subtleties of the dyadic interaction and to capture the interpersonal effects of adult upon child and child upon adult. The adult coding device consisted of equal number of sensitive-related, withdrawn-related, and directive-related items. The numbers of behaviors were summed in each category. If seventy percent of the behaviors fell in a category, the mother's interactive style was given that label--withdrawn, directive, or sensitive. If the tally of behaviors was scattered across categories, with fewer than seventy percent in any grouping, the adult's style was entitled "unclear pattern."

The same procedure was followed with the child coding device, with patterns of passive, difficult, and cooperative child styles as well as unclear patterns identified. (See Appendix II). Even though the possibility of overcorrection exists, cross tabulations were tested using the X^2 test for independence with the Yates correction because of the small expected cell frequencies. (Camille and Hopkins, 1978).

A naive observer was trained in the analysis procedure. Four tapes, two for each group (teen parents and trained educarers), were randomly selected and independently critiqued. Both overall rating and individual items checked were compared. Interobserver reliability was .87 for the single items and .92 for the overall category label.

Research Results

--Ideal Image

In rating their ideal image of an infants' behavior, fifty percent of the trained educarers were willing to accept great variations on temperamental

dimensions, particularly in rhythm, approach, activity level and mood. The other fifty percent of the educarers ideally desired a moderate level in each of these areas. In the teen parent group, only one person was accepting of great variation. The others desired moderate levels in each of the temperamental characteristic dimensions.

--Rating on Temperament

In the rating of temperament on the standardized scales, however, there were no significant differences ($X^2 = 2.1$, 4 df $p > .10$) in the categorization of child temperament (easy, difficult, slow-to-warm-up, intermediate high, intermediate low) between the teen parents and the trained educarers. More than seventy percent of each group rated the children either difficult or intermediate high (tending toward difficult.) See Figure 1.

Figure 1. Temperament Ratings

Ratings / Types of Adults	Trained Educarers	Teen Parents	//////
Easy	1	0	1
Difficult	3	6	9
Slow-to-warm	2	1	3
Intermediate High	4	6	10
Intermediate Low	2	1	3
	12	14	26

$X^2 = 2.1$
4 df
$p > .10$

In the micro-analysis of actual interactions, however, there were significant differences (X^2 = 36.45,, 3 df, p <.005) between the teen parents and the trained educarers. About thirty percent of the teen parents had sensitive interactive styles with the remainder either withdrawn, directive, or exhibiting an unclear pattern.

Even though seventy percent of the trained educarers rated the children as difficult or tending toward difficult, in the actual interactive play sessions, they interacted in a sensitive manner. (See Figure 2).

Figure 2. Adult Interactive Style

Types of Adults / Adult Interactive Style	Trained Educarers	Teen Parents	
Withdrawn	0	3	3
Directive	0	3	3
Sensitive	11	4	15
Unclear Pattern	1	5	15
	12	15	27

X^2 = 35.45
3 df p<.005

There also was a significant difference (X^2 = 8.7, 3df, p<.05) in the child interactive styles among the two groups--teen parents and trained educarers. Over one-half of the children of teen parents were passive, while thirty percent were cooperative. The remainder exhibited an unclear pattern, with some passive and some difficult behaviors. The "children" of the trained educarers were cooperative in the interactive play sessions. (See Figure 3.)

Figure 3. Child Interactive Style

Types of Styles Children of/Interaction	"Primary Care" Children	Children of Teen Parents	
Passive	0	8	8
Difficult	0	0	0
Cooperative	12	5	17
Unclear Pattern	0	2	2
	12	15	27

$\chi^2 = 8.7$
3 df $p < .05$

The relationship between adult and child interactive style was significant ($\chi^2 = 28.34$, 6df, $p<.005$). Sensitive adult styles were related to cooperative child style. Withdrawn, directive, and unclear adult styles were related to passive child style.

Figure 4. Relationship of Adult and Child Interactive Styles

Child Styles / Adult Styles	Passive	Difficult	Cooperative	Unclear Pattern	
Withdrawn	2	0	1	0	3
Directive	3	0	0	0	3
Sensitive	0	0	15	0	15
Unclear Pattern	3	0	1	2	6
	8	0	17	2	27

x = 28.34
9 dfp < .00

Summary Discussion

The limitations of this study--that there was a small sample in a small geographic area--must be recognized. Nevertheless, some interesting conclusions emerge.

It was unexpected that temperamental ratings between the groups of teen parents and trained educarers wouls be similar. Since the scales were standardized and behavioral, the ratings should be accurately representative of the adult perception of child behavior. For the most part, the ratings were difficult or intermediate high (tending toward difficult.) The differences in demographic characteristics did not create differences in temperamental ratings.

In the actual interactive play sessions, however, there were significant differences in adult styles. Most of the trained educarers were able, at least in the play sessions, to interact in a sensitive manner. Although the styles of teen parents were distributed among all styles, one-third of them exhibited an unclear pattern. There was a combination of directive, intrusive behavior against a backdrop of passive behavior. One could speculate that age, experience, and education might influence the actual interaction more than the perception of temperament as evidenced in standardized ratings.

Perhaps the most far-reaching result of this study is the significant relationship of adult and child interactive styles. Whether the adult was a trained educarer or a teen parent, sensitive styles were related to cooperative child styles. In contrast to other studies, directive, withdrawn, and unclear adult styles were related to passivity on the part of the child. Previously, researchers had found that adult directive styles led to difficult child styles. (Crittenden, 1981).

In light of this evidence, the goal of support programs for teen parents and/or training programs for educarers would be to develop sensitive interactive styles. This could be accomplished through:

1) supportive responsive environments for the adults themselves.

2) education in the observation and analysis of child behaviors.

3) education in interpersonal communication skills.

4) practice of contingent responses to child actions.

Perhaps these programs could parallel what anthropologists have found in cross-cultural studies of birth customs, where "holding environments" were created in which the young parents were sensitively nurtured and gently guided in a responsive manner. This could enable mothers/educarers to hand down these sensitive experiences to children in their care. The cooperative child styles would then aid the children in exploring and experiencing both their social and physical environments.

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APPENDIX I. SAMPLE PROFILE AND SCORING SHEETS

TODDLER TEMPERAMENT SCALE - PROFILE SHEET (1978)

PART I - for one-year-old children (12-23 months) by William Fullard, Ph.D., Sean C. McDevitt, Ph.D., & William B. Carey, M.D.

Name of Child _____ Date of Rating _____

Age at Rating: _____ Years _____ Months _____ Days Sex _____

Category score for Scoring Sheet:

_____ _____ _____ _____ _____ _____ _____ _____ _____

Profile: Place mark in appropriate box below.

	Activity	Rhythm	App/With	Adapt.	Intens.	Mood	Persist	Distract	Thresh
6	High	Arryth	Withdr	Slowly Adapt	Intense	Negative	Low Per	High Distsr	Low
+1S.D	4.93	3.30	3.97	4.28	4.79	3.65	4.28	5.15	4.49
Mean	4.13	2.49	2.97	3.42	4.03	3.45	3.45	4.39	3.61
-1S.D.	3.33	1.68	1.97	2.56	3.27	2.27	2.62	3.63	2.73
1	Low	Very Rhyth	App	Very Adapt	Mild	Positive	Hi Per	Low Distr	High

Diagnostic Clusters

Easy		Rhyth	App	Adapt	Mild	Positive			
Diff		Arryth	Withdr	Slowly Adapt	Intense	Negative			
STWU	Low		Withdr	Slowly Adapt	Mild	Negative			

Definition of diagnostic clusters used for individual scoring:

Easy. Scores greater than mean in no more than two of difficult/easy categories (rhythmicity, approach, adaptability, intensity, and mood) and neither greater than one standard deviation.

Difficult. 4 or 5 scores greater than mean in difficult/easy categories (rhythmicity, approach, adaptability, intensity, and mood.) These must include intensity and two scores must be greater than 1 standard deviation)

Slow-to-Warm-Up. As defined above, but if either withdrawal or slow adaptability is greater than 1 standard deviation, activity may vary up to 4.53 and mood may vary down to 2.62.

Intermediate. All others. Intermediate high 4 or 5 diff/easy categories above mean with one > 1 standard deviation, or 2 or 3 above mean with 2 or > standard deviation. Intermediate low--all other intermediates.

This child's diagnostic cluster _____ Date of Scoring _____

Comments: Scorer _____

TODDLER TEMPERAMENT SCALE - PROFILE SHEET (1978)

PART II - for two-year-old children (24-36 months) by William Fullard, Ph.D., Sean C. McDevitt, Ph.D., & William B. Carey, M.D.

Name of Child _____ Date of Rating _____

Age at Rating: _____ Years _____ Months _____ Days Sex _____

Category score for Scoring Sheet:

_____ _____ _____ _____ _____ _____ _____ _____ _____

Profile: Place mark in appropriate box below.

	Activity	Rhythm	App/With	Adapt.	Intens.	Mood	Persist	Distract	Thresh
6	High	Arryth	Withdr	Slowly Adapt	Intense	Negative	Low Per	High Distsr	Low
+1S.D	4.85	3.55	3.95	3.83	4.88	3.55	3.57	4.93	5.30
Mean	3.99	2.79	2.91	3.04	4.06	2.95	2.82	4.20	4.43
-1S.D.	3.13	2.01	1.87	2.25	3.24	2.25	2.07	3.47	3.56
1	Low	Very Rhyth	App	Very Adapt	Mild	Positive	Hi Per	Low Distr	High

Diagnostic Clusters

Easy		Rhyth	App	Adapt	Mild	Positive			
Diff		Arryth	Withdr	Slowly Adapt	Intense	Negative			
STWU	Low		Withdr	Slowly Adapt	Mild	Negative			

Definition of diagnostic clusters used for individual scoring:

Easy. Scores greater than mean in no more than two of difficult/easy categories (rhythmicity, approach, adaptability, intensity, and mood) and neither greater than one standard deviation.

Difficult. 4 or 5 scores greater than mean in difficult/easy categories (rhythmicity, approach, adaptability, intensity, and mood.) These must include intensity and two scores must be greater than 1 standard deviation)

Slow-to-Warm-Up. As defined above, but if either withdrawal or slow adaptability is greater than 1 standard deviation, activity may vary up to 4.53 and mood may vary down to 2.62.

Intermediate. All others. Intermediate high 4 or 5 diff/easy categories above mean with one > 1 standard deviation, or 2 or 3 above mean with 2 or > standard deviation. Intermediate low--all other intermediates.

This child's diagnostic cluster _____ Date of Scoring _____

Comments: Scorer _____

APPENDIX II
TOOL FOR ANALYSIS OF INTERACTION

ADULT CODING DEVICE

*Score on the basis of a single instance
D = directive-related item
W = withdrawn-related item
S = sensitive-related item

Facial Expression

S 1. *Mutual smiling.
S 2. Alert, or responsive, or attentive, or appropriate for the situation and the child's response.
D 3. Inappropriately happy (happy when the child is displeased, or when the child can't see the adult's face, or too exaggerated for the situation, or unchanging in spite of situational change.)
W 4. Blank, impassive, or expressionless.
W 5. *Looks away from child and toys (and not to camera); looks at nothing.

Vocal Expression

S 6. Slow, gentle, rhythmic voice tone--appropriate for the child's age and state.
W 7. Flat voice tone or adult rarely speaks.
D 8. Pseudo-appropriate voice tone--uses infant-elicited intonation and rhythm but is exaggerated, or fast-paced, or artificial sounding--may be used to express rather sharp demands of the child and does not usually match the child's affect.
D 9. Commands are behaviorally inconsistent (e.g., sweet voice and insistent hands, sharp voice matched with a disarming smile, gentle insistence combined with brief indications of disgust when the child does not comply.
S 10. Commands or requests, when given, are consistent with the rest of the adult's behavior.

Position and Body Control

W 11. Sits so can't see child's face most of the time.
W 12. Sits awkwardly or as though ready to leave; positions the child akwardly (child is suspended from the shoulders, held on adult's lap but away from her body, or seated alone but unsteadily and unsupported).

S 13. Holds child comfortably, or positions it comfortably on the floor, so that both toys and adult's face are visually available.
S 14. *Adjusts the child's body for the child's comfort or ease of toy play
D 15. Manipulates the child's legs to accomplish something the mother wants.
D 16. Adult suddenly and unexpectedly moves toys or her face in close to the child's face, producing a startle, wince, or withdrawal (unlike the "Boo!" in the common game "Ah, Boo!", this behavior is not part of a rythmic game format.
W 17. Adult spends most ofthe interaction with her face 2 feet or more from the child's face or her body beyond arm's range from a seated child's.

Adapted from Crittenden, 1981.

Expression of Affection

S 18. *Affectionate behavior--gentle patting, stroking, or tickling, usually on the child's body or outer parts of the face, producing pleasure in the child.

D 19. *Pseudo-affectionate behavior--similar to the affectionate behavior but is irritating to the child and is more like jabbing, poking, or pinching (does not include nose cleaning), and produces a startle, wince, or withdrawal--may be done with an object.

D 20. *Repeats pseudo-affectionate behavior.

W 21. Expresses no affection (or pseudo-affection) to the child; affection is conspiciously absent.

D 22. *Adult pulls back from, cuts short, avoids, or appears uneasy with physical or visual closeness initiated by the baby.

Pacing

S 23. Contingent pacing--adult is sensitive to the child's rhythms and signals; gives child time to respond before stimulating him further; clear effort by mother to create a turn-taking dialogue.

D 24. Non-contingent pacing--adult is involved and active but her pacing is not contingent on the child's rhythms or cues; pacing is often, but not always, face-paced or intense.

W 25. Long, empty pauses between instances of stimulation--maternal involvement in the child's play is only sporadic and does not involve turn-taking.

Control

W 26. Initiate almost no activities.

W 27. Leaves the child doing nothing during much of the interaction.

S 28. Takes turns acting or vocalizing with the child.

W 29. Child controls the play without the involvement of the adult (adult is totally uninvolved or functions only to keep the infant playing with the toy; she is not playing with the child) or no play occurs at all.

S 30. Either the adult or the child chooses the activity; however, they both are clearly enjoying it and taking turns playing together.

D 31. Adult controls the choice and duration of the activity in spite of clear signals that the activity is not liked by the infant, has been continued too long, or is too difficult.

S 32. Responds positively to eye contact.

S 33. Modifies her behavior when the child expresses a preference or displeasure (the change must be an attempt to meet the child's need, not just an attempt to stave off crying while still pursuing the adult's goals).

D 34. *Interferes with the child's play to change or correct an activity or to limit the child's range of activity.

W 35. *Does not respond to the child's initiation (offer, reach, eye contact, vocalization, point, etc.) in a way that furthers the interaction--either ignores it or passively accepts it without overt involvement (e.g., returns eye contact but doesn't add smile or vocalization).

D 36. *Keeps an interesting toy just out of reach or takes away an object of child's interest.

D 37. Makes child wait and watch while adult performs an activity (this does not refer to a brief demonstration, but rather, instances in which the baby wants involvement but the adult ignores or prevents it).

S 38. Gives the child an opportunity to explore the toy or room freely and still maintains interest and attention.

Choice of Activity

S 39. Chooses developmental appropriate activities.
D 40. Makes demands beyond the child's developmental level.
W 41. Offers stimulation far below the child's developmental or interest level.
W 42. Appears unable to think of things to do with the child (appropriateness of of choices is not at issue here).

CHILD CODING DEVICE

P = passive-related item
C = co-operative-related item
D = difficult-related item

Involvement with Adult and and Activity

C 43. Responds co-operatively to adult requests (e.g., smiles, brightens, vocalizes, activates toy or body, carries out request).
D 44. Repels adult or offered objects by wincing, arching back, pushing away with hands and feet, throwing out arms and legs, turning away. Usually does several of these at once.
D 45. Refuses to let go of toys when adult reaches for them.
P 46. Initiates little or no contact with adult or toys.
C 47. Imitates adult or answers adult--infant's responses are clearly related behavior (e.g., imitates vocalization or hand movement, vocalizes in turn, plays give-and-take).
D 48. Responds to adult's plan for the interaction with frustration, opposition, or conflict.
P 49. Gives delayed responses or very low-key responses to adult initiatives; often does not acknowledge maternal
C 50. Seeks or maintains contact with the adult through any means (e.g., vocal ization, eye contact, smiling, touching, give and take of toys).
P 51. Makes little or no protest when left with nothing to do.
D 52. Expresses anger either directly or through toy play (e.g., fisting hands, throwing toys, angry face, random hitting or banging of toys).

Facial Expression

C 53. Attends visually to toys and/or adult; infrequent gaze aversion.
P 54. Looks bored (i.e., vacant expression, eyes wide open but unseeing and unblinking or downcast and dull, glazed look, minimal change of expression).
D 55. Alternates grimaces with pleasant or expressionless face (unlike the blank face described in the item above, in this case the eyes are alert but turned fully away from adult).
P 56. Avoidance of eye contact by letting eyes drift just out of a direct gaze line; line; a subtle means of evasion in which the infant appears available and yet consistently eludes opportunities for contact.
C 57. Shows playfulness (e.g., coy, teasing looks, pleased with outcome of activities), or shows serious concentration on or attention to activity.
D 58. Actively avoids eye contact; turns head away fully from adult, usually in response to disliked behavior.
P 59. Displays brief expressions of resignation (i.e., shrug of shoulders, pursing of lips, dropping of eyes, etc.) in response to lack of activity rather than to disliked activity. Expressions are fleeting and generally not visible to or directed at adult.
C 60. Responds to eye contact with a sustained look, followed by brightening or smiling.

Vocal Expression

C 61. Vocalizes with pleasure (e.g., coos, gurgles, crows, babbles, laughs, talks).
D 62. Cries or protests more than uses pleasure vocalizations.:
P 63. Sighs, makes uninterpretable sounds, or is silent.

Rhythmicity

D 64. Changes behavior abruptly; does not make smooth transitions from one completed behavior to the beginning of another; activities seem cut off (may be due either to the child's own jerky rhythm or to adult intrusiveness).
D 65. Responds rapidly and negatively to adult's behavior.
P 66. Moves lethargically and slowly; long gaps between activities or movements.
C 67. Shows smooth transitions between activities; each activity is completed and the child's interest drops before the next activity is begun.
C 68. Changes facial expression in response to changes in interest in activity. (usually bright-eyed or attentive with briefer expressions of surprise, pleasure, anticipation, displeasure., etc.).
C 69. Gives multiple, related positive cues (e.g., reach, eye contact, smile, vocalize). Uses several signals together in a coordlnated manner.
P 70. Uses isolated cues which seem partial, tentative, or ambiguous (e.g., reaches for adult with hand but does not look at her, smile, or vocalize); cues are only part of what would usually be a "package" of coordinated cues.

Body Tone and Co-ordination

D 71. Responds to stimulation with rigidity and resistance. Whole body is involved in response
C 72. Moves smoothly involving only necessary parts of body (for developmental age); is neither rigid nor lethargic.
P 73. Minimal involvement of body parts in movement (e.g., fingers toy but does not use full hand or arm and shoulder).
P 74. Slumped body posture; rag-doll responses to being moved; flaccid, hypotonic muscle tone.
C 75. Coordinates activity toward a goal.

Reaction to Physical Contact

D 76. Struggles against awkward positioning.
D 77. Resists adult manipulation or adjustment of child's body with whole body (e.g., arches back, kicks feet, refuses to bend, stiffens).
P 78. Limply accepts adult manipulation or adjustment of his body; limply leans against adult without sinking in or pulling back.
C 79. Assists adult when she manipulates or adjusts the child's body; sinks in or pulling back.
D 80. Withdraws when body space is invaded (e.g., blink, throw head back, thrust arms and legs out, turn away, pull back.)
P 81. Remains impassive to adult attention or closeness or does not have such contact.